



PROCEDURE

Carus Corporation follows ASTM Method D7262-10 Test Method A for our permanganate natural oxidant demand (PNOD) analysis. A brief summary of D7262-10 Test Method A follows:

For each soil sample, 600 g of soils are baked at 105°C. The soils are dosed in triplicate at one initial potassium permanganate (KMnO₄) level of 100 ml of 20g/L KMnO₄ to 50 g soil for an initial dose of 40 g KMnO₄/kg dry soil. The reactor vials are gently inverted. Following 48 hours of reaction time, the liquid portion of the treated sample is analyzed for permanganate residual following method 4500-KMnO₄ Potassium Permanganate in Standard Methods for the Examination of Water and Wastewater.

To order a complete copy of the ASTM method, visit <http://www.astm.org>.

REGULATED SOIL SUBMITTAL PROCEDURE

Note: Soil is regulated by the U.S. Department of Agriculture (USDA) from the following locations:

Foreign sources

Hawaii, Guam, Puerto Rico, and the U.S. Virgin Islands

Parts of the continental U.S. For more information on the domestic soils that are regulated, contact the Plant Protection and Quarantine office at 301-734-8645 or your state plant protection inspector.

For each sample location at a remediation site, collect at least 600 grams of soil sample. Two completely filled 250-mL wide mouth glass jars (free of large rocks) will provide a sufficient quantity. The ASTM D7262-10 method for permanganate natural oxidant demand specifies that at least 600 grams soil/aquifer solids be available at the start of testing. Groundwater is not collected for this method.

Fill the containers completely and pack the soil (do not include plant material) as tightly as possible to eliminate as much entrapped air as possible.

Record the following information on the labels on the sample containers:

Date and time of sampling

Location of the sample

Initials of the person collecting the sample

The soil must be placed into a leak-proof container with a goal of triple containment. Place each of the jars into a plastic bag and enclose the bottles in bubble wrap, foam, packing peanuts, or other acceptable packing material to prevent the glass bottles from breaking in transit.

Enclose a copy of the Carus USDA Soil Permit inside the package.

To comply with the U.S. department of Agriculture, declare the packages as soil and affix the enclosed sticker (PPQ Form 550) onto the outside of the package.



The laboratory is closed on weekends and holidays. Samples should be shipped between Monday and Thursday to the following address for overnight delivery. As part of the Responsible Care[®] 14001 Plant Security requirements, the following information must be on the outside of the shipping container:

Carus Corporation
Attention: Cody Zitoun
1500 Eighth Street
Bldg 45- Customer Service Lab
LaSalle, IL 61301

Also includes the following information on the shipping container:

Name of the originator
Address
Contact person
Phone number

Note: The Carus receiving department will not accept samples without the proper identification.